

JOINTS IN MODULAR COORDINATION

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On this occasion I am pleased to join in welcoming the distinguished delegates from our neighboring countries. I feel that all of us are brothers. May I take this opportunity to present one or two observations in an atmosphere of friendship and brotherhood.

Since the work of the Roving Seminar has become more generally known, public demand for standardization and modular system is increasing. But we must also face the facts that are obstacles in developing this building technology. Support from governments and the authorities is not as strong as it might be and better understanding is still required.

While all the countries in the Southeast Asia region are developing, only a few are industrialized and some are still using the conservative or traditional methods as their local technology.

These differences may be reflected in expression of technological concepts and their understanding, even though all of us already are in the technological society. Nevertheless, I hope that all of us will take pleasure in discussing the considerable problems and profit from the interchange of ideas and experience.

Now I want to consider one phase of this technology :-

The Joints in Modular Coordination.

It is acknowledged that the joints are one of the most important parts of building structure.

Joints are generally classified in three types :

- Architectural joints $\boxed{A}=\boxed{A}$

- Structural joints $\boxed{S}=\boxed{S}$

- Joints between architectural components and structural components or architectural elements and structural elements $\boxed{A}=\boxed{S}$

\boxed{A} represents architectural components.

\boxed{S} represent structural components.

$=$ represents the connector used for the specific components to be joined.

หมายเหตุ บทความนี้เป็นบทปราศรัยเกี่ยวกับรอยเชื่อมต่อในการใช้ระบบประสานทางพิคัก ซึ่ง ศ. เรืองศักดิ์ ก้นตะบุตร ได้รับเชิญให้เป็นวิทยากรกล่าวร่วมในการสัมมนาส่วนภูมิภาค เรื่องระบบประสานทางพิคัก (The Regional Seminar on Modular Coordination) จัดขึ้นโดยความร่วมมือจาก UNESCO ทั้งนี้เมื่อวันที่ 2 พฤศจิกายน 2526 ณ สถาบันวิจัยวิทยาศาสตร์และเทคโนโลยีแห่งประเทศไทย - บก.

Good Joints :

- Good joints derive from sensible ideas generated by a scientific mind, rational thinking and the intuitive power of the designer.
- Good joints closely relate with the structural system.
- Good joints honestly express their behavior and characteristics, their practicability, correctness and beauty.
- Good joints are capable of resisting both internal force and external force.
- In industrialized building, good joint design is closely interlinked with the production of the components to be joined.
- An understanding of the nature of the materials and methods of construction is essential in designing a good joint.

Mies Van der Rohe, the great architect who is one of the masters of industrialized building, always considered good joints as "God" in building design.

In practicing modular design, it is acknowledged that economy the saving of materials and cost, must always be kept in mind.

The art in good design is to reduce or eliminate problems before they arise. It has been evident that not many designers give prime consideration to this art.

The quality of reducing or eliminating problems before they arise is best found in a structural system in which the enclosure is clear of the structure. In such a system, architectural and structural joints are independently operated which allows economies to be readily made.

In designing a good joint, the capability of resisting and carrying both internal force and external force at the same time must not be neglected. The structural designer can master only the internal forces. The external forces or loads are usually beyond efficient control because of their nature. Their amount, direction and timing are uncertain. Awareness of the behavior of the erection force or stress is the other condition for designing especially structural joints.

Since the end of the Advanced Roving Seminar on Standardization and Modular Coordination held in 1974 at Bangkok, New Delhi, Manila, and Bandung, some countries may have made some progress in modernizing or rationalizing their traditional methods of building. And to be sure some may prefer to move in a step by step manner according to local needs and economy.

We will all be looking forward with the keenest interest to your comments, experiences, ideas and recommendations on these important questions. I hope that this Seminar will be successful and beneficial for all of us.